

**PP-89**

**The role of microalgae in biosorption of nanoparticles**

**Neha Shrivastava, Vikas Shrivastava, Rajesh Singh Tomar and Anurag Jyoti\***

Amity Institute of Biotechnology, Amity University Madhya Pradesh

Maharjpur Dang, Gwalior-474005, India

\*E-mail: [ajyoti@gwa.amity.edu](mailto:ajyoti@gwa.amity.edu)

Nanotechnology is growing rapidly, and its applications are enormous. Rapid use of Nanoparticles, have become toxic for both human health and environment. Nanoparticles have been increasingly released into environments particularly water bodies get severely deteriorated with discharged nanomaterials. Nanoparticles can enter human body through various routes and shown very dangerous diseases like asthma, cardiac diseases, cancer and many more. Biosorption has emerged as the most promising technology which uses living plants as well as dead biomass of plants for removal of toxic substances from water to make them harmless. On the basis of various experiments and reports, algae have been recognized as natural water purifiers. Micro algae have received much attention due to their capability to absorb metals and uptake toxic elements from the environment *Chlorella* and *Scenedesmus* are widely used green algae as compared to other species for removing toxic metals from aquatic system as they can tolerate metals like Copper, Nickel, Cadmium, Lead, Mercury, Titanium, Arsenic and Zinc. So, the objective of this research to develop a method for bio-sorption, immobilization and application using *Chlorella* and *Scenedesmus* (green algae) biomass as a biosorbents for effective removal of toxic nanoparticles from aqueous solutions.

Keywords: Nanotechnology, Nanoparticles, Toxicity, Biosorption, Microalgae